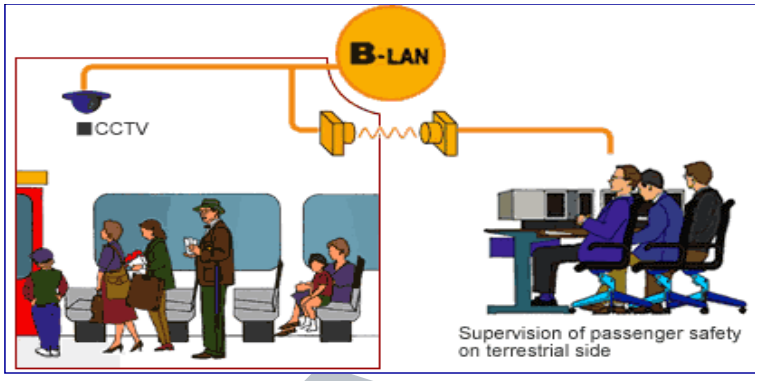
Security Cameras/Systems Fact Sheet: Rail Transit



Technology Overview

Security cameras and security systems can be used in bus systems to monitor the safety and security of the passengers, employees, and other equipment and materials associated with a rail transit system. Security cameras can be used to monitor for safety purposes, monitoring the operating status of equipment and alerting officials of possible delays or closure of a system, as well as used for monitoring the security of a system, alerting monitoring officials of possible intentional acts of crime or violence. Security cameras can be used on small or large transit systems. Agencies can choose between analog and digital technology. Analog technology can be less expensive than digital, recording at 5 to 20 frames per second. Digital technology records at over 30 frames per second, and can be paired with many other technologies, including global positioning systems (GPS) and remote monitoring.

Common Security Camera Uses

- Monitor safety and security on transit agency vehicles
- Used in conjuction with other technology for incident response
- Can be to combat fare evasion and fradulent claims

Common Technology Combinations

Security cameras can be paired with many other different technologies to create an effective security system. Technologies include radio communications, silent alarms, covert microphones, closed circuit television (CCTV) cameras (video surveillance), AVL, and other equipment that assist transit agencies in monitoring and responding to situations onboard vehicles and at transit facilities, and to be used in incident response.

On-Vehicle Surveillance

The use of on-vehicle surveillance can be used to observe criminals, increasing the chances of arrest if a crime has taken place on a transit system. Complex remote monitoring systems can

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pair security systems with GPS or automatic vehicle locators (AVL) to pinpoint exactly where a security occurrence has taken place.


Video cameras are placed on the top of the car of a BART train.

Station/Facility Surveillance
Closed Circuit television (CCTV) can be used as a safety and security precaution to monitor transit stations and facilities. These can work well with other monitoring devices, such as security perimeter fencing or motion detectors, to see if a security alert from a fence is an actual security breach, or an animal setting off the security alarms. Use of security cameras with fiber optic cables and digital technology allows images from multiple locations to be transmitted to a central location for monitoring and storage.

Incident Response
Incident response technology can pair security cameras with AVL systems to connect dispatchers, drivers and supervisors and help them coordinate after an incident has taken place. This helps locate vehicles immediately once a vehicle has been involved in an incident.

Some Factors to Consider

Planning
- Develop a structured procurement plan.
- Develop performance oriented requirements and specifications.
- Involve staff from various departments and outside stakeholders such as contractors.
- Visit peers at other transit agencies.

Implementation
- Training of drivers and dispatchers.
- Ensure adequate staff for data analysis.
- Adequate data storage capacity.
- The implementation process from planning to having an operational system can take 2-3 years for large agencies and less than a year for small agencies.

Integration
- Interoperability with existing and planned ITS technologies. Avoid proprietary interfaces between vehicle and dispatch center components and look for open standards.
- Flexibility for changes in fleet size.
- Upgrade to communication system may be required. Test communications coverage and expect gaps in GPS coverage.

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Benefits and Costs

Agencies can maximize the benefits of security systems by developing a process for storing and analyzing all data as well as by integrating the system with as many existing and planned technologies as possible.

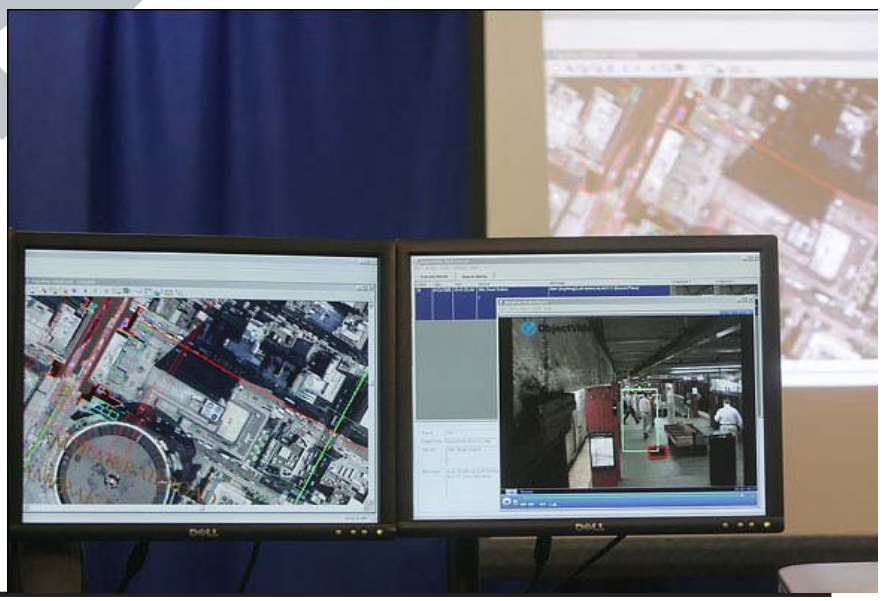
Benefits

- New Jersey Transit installed more than a thousand camera, some wiht pan-tilt-zoom features, installed throughout the entire state, allowing the NJT Police to have "eyes" througout the entire system, reducing crime and vandalism rates
- All WMATA Metro Stations have at least 8 strategically placed CCTV cameras under constant surbeillance, which has led to a decrease it crime rates
- Other benefits include a reduction in fair evasion and assaults on transit agency property. Transit users also report to feel safer with the presence of security cameras in transit stations.

Costs

- Integrating a security system with other technology could prove costly.
- Stand alone cameras in larger systems may not prove to be as cost effective as cameras integrated into a larger security system
- Staffing needs can increase for training and monitoring of the security system.
- Additional pieces of storage equipment must also be purchased to archive data.

Security images often are transmitted back to security command centers such as the one pictured to the right.



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Transit Agency Deployments

Agency Name	Contact Information	Buses	Deployment Context	Success of Deployment
New Jersey Transit	2424 Piedmont Road, NE Atlanta, GA 30324-3311		Integrated security system	Provides live and archived feeds that count customers, detects dropped bags, tracks intrucders in secure areas such as tunnels and bridges
Washington Metropolitan Area Transit Authority (WMATA)	600 Fifth Street, NW Washington, DC 20001	1,443	Cameras installed in all Metro stations	
SouthEastern Pennsylvania Transportation Authority (SEPTA)	1234 Market Street, Philadelphia, PA 19107	1,388	Placed cameras in 4 buses	Experienced a 32 percent reduction in claims
Dallas Area Rapid Transit (DART)	1401 Pacific Ave. Dallas, Texas 75202	687	Installed cameras in 68 buses	Contributed to a 35 percent reduction in insurance claims

Additional Resources

Reports

Okunieff, P.E. *TCRP Synthesis of Transit Practice 24: AVL Systems of Bus Transit.* Transportation Research Board, National Research Council: National Academy Press, 1997.

Schweiger, Carol L. *TCRP Synthesis 48: Real-Time Bus Arrival Information Systems.* Transportation Research Board, National Research Council: National Academy Press, 2003.

Websites

US DOT ITS Databases
- http://www.itsbenefits.its.dot.gov
- http://www.itscosts.its.dot.gov
- http://www.itslessons.its.dot.gov

ITS America - http://www.itsa.org

Transit police contribute to the security network, responding to incidents recorded on security cameras.

FTA Publication #: FTA-TRI-MA-##-####-##

Federal Transit Administration • Office of Research, Demonstration, and Innovation • Office of Mobility Innovation (TRI-11)
Research and Innovative Technology Administration • John A. Volpe National Transportation Systems Center